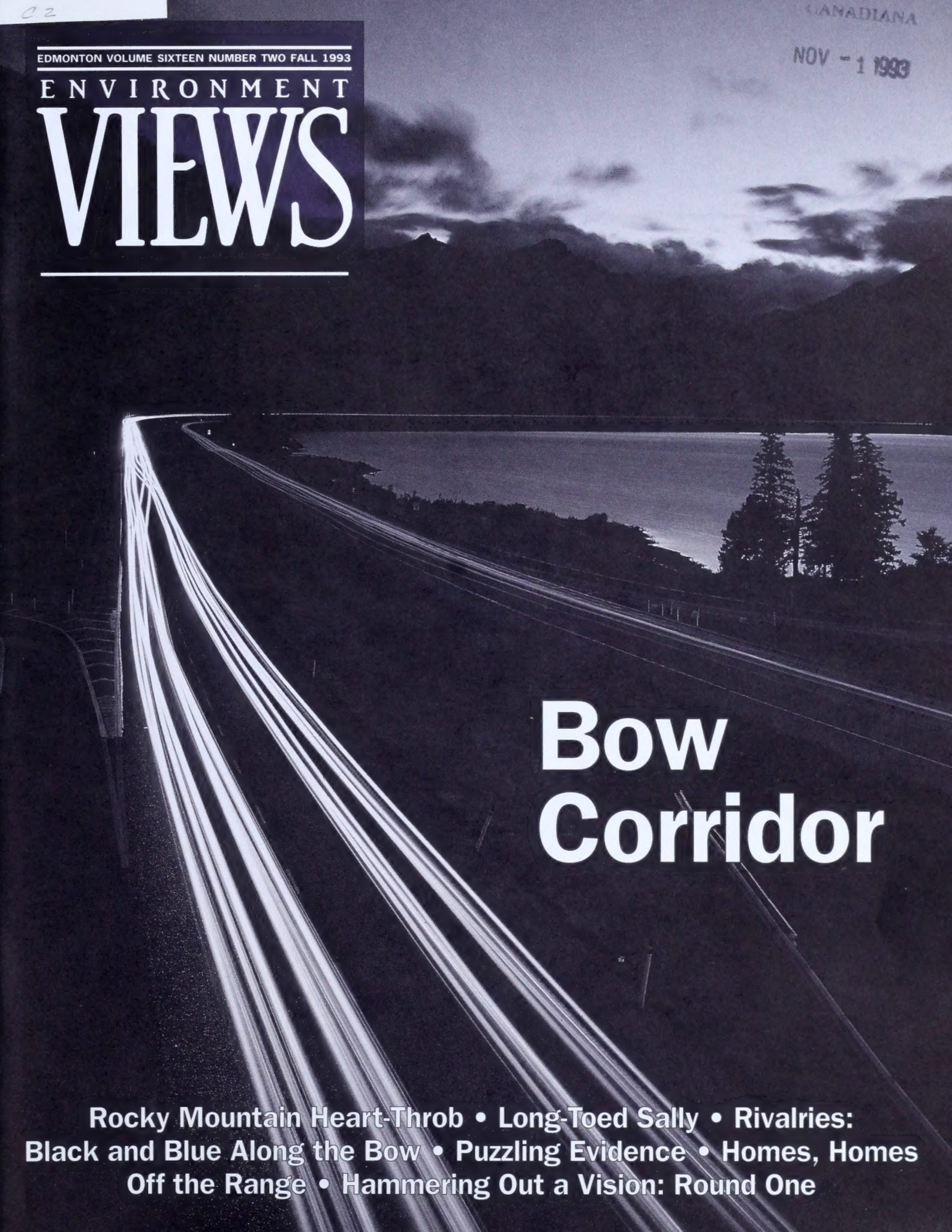


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EDMONTON VOLUME SIXTEEN NUMBER TWO FALL 1993

ENVIRONMENT VIEWS

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Bow Corridor

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Black and Blue Along the Bow • Puzzling Evidence • Homes, Homes
Off the Range • Hammering Out a Vision: Round One

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EDITOR'S NOTEBOOK

Like most Albertans, I can't remember the first time I visited the Bow Corridor. I was too small. The narrow strip along the Bow River that runs through Canmore, Banff and Lake Louise provides a setting for important scenes in most of our personal histories: vacations, first jobs, summer study, journeys to the coast. For many of us, the first trip west down the TransCanada has marked the beginning of a love affair with the Rockies, and through them, with Alberta's natural environment.

The corridor has also shaped the nation's history. As a crucial road and rail route and the birthplace of our national parks, the Bow Corridor is the historic avenue along which throngs of Canadians have rubbed shoulders with the natural world almost since Confederation.

As this issue of *Environment Views* describes, all this history adds up to present-day stress. Human uses—from tourism and recreation to transportation and mining—change the face of the corridor and challenge its wildlife to survive. A patchwork of jurisdictions struggle to manage all the issues. Developers and conservationists lock horns on an ever-growing list of new issues.

In *Environment Views*, we strive to present a balanced range of opinions on every topic we examine. Our Bow Corridor issue is no exception.

For example, a 23-year resident of Banff and Canmore writes that many tourism developers would rather do without wildlife, while resort developers stress that wildlife constitutes an essential part of what they want to market to vacationers.

But while we only have to balance opinions, a long list of groups face the far more difficult task of balancing their interests. A century of development in the Bow Corridor won't disappear, but neither will, for example, the Parks Act. The irony in this situation, and perhaps the key to its solution, is that everyone involved agrees that the corridor is precious.

Lynn Zwicky is an Edmonton writer and researcher who specializes in environmental issues.

Cover photo: Daryl Benson

ENVIRONMENT VIEWS

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Alberta
ENVIRONMENTAL PROTECTION

Late in June, the Bow Corridor lies beneath heavy grey clouds. Rain slants down onto the streets of Canmore and Exshaw, splatters the leaves of the aspen along the lower slopes of Mount Yamnuska and lashes the face of Lac des Arcs.

On days like this, people take shelter and complain about the weather. Trucks and cars on the TransCanada Highway whine and hiss through the rain, their occupants peering past the slap-slap of windshield wipers at the ribbon of asphalt slicing through the unseen Bow River Valley.

Sheets of water pulse across the limestone faces of the Fairholme Range, Three Sisters Mountain and Mount Rundle. Gullies fill with runoff as sparse timberline forests and grassy slopes shed the rain their shallow soils cannot absorb. Cougar Creek and Wind Creek swell with brown water and the Bow River rises and overflows its banks.

On days like this, the Bow River becomes one with its surrounding landscape. The entire Bow watershed runs water, from the summits of cloud-enshrouded mountains to the round, washed gravels of the riverbed below.

For just this brief time, running water makes tangible the complex web of living connections that bind the Bow River to its great mountain ecosystem.

Ecologist Paul Paquet and other scientists call this ecosystem the Central Rocky Mountain Ecosystem. Its heart is the Bow Corridor between Lake Louise and Morley. This narrow valley contains a river, a road and a railroad, and a mosaic of habitats on which the larger ecosystem depends.

Water, ice and climate shaped its natural endowment: a complex variety of landscapes, balmy weather and an unusually rich mix of prairie, alpine and northern plants and animals. More and more, human decisions shape it too.

Water

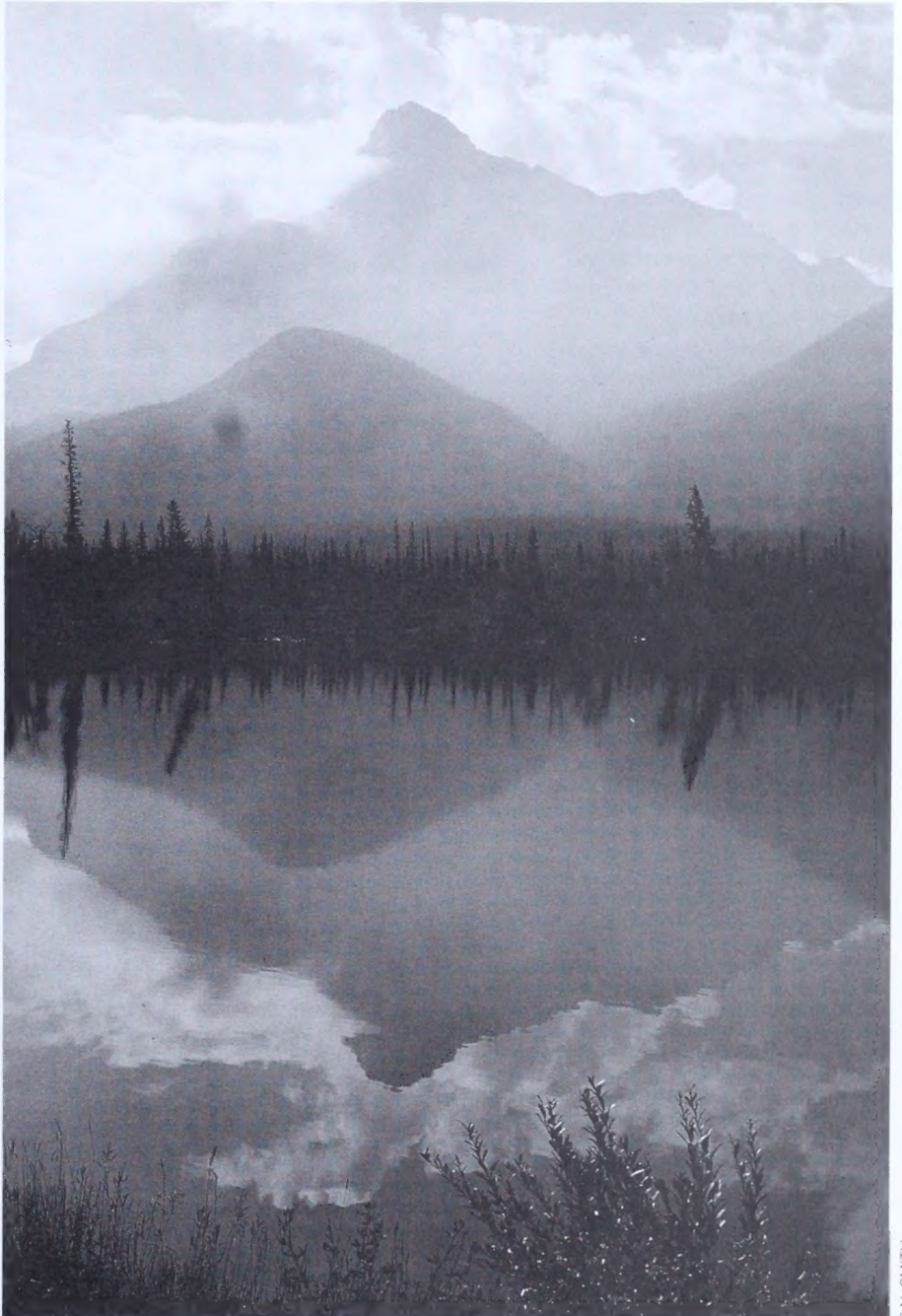
Anglers fish for brown trout in the Bow near Exshaw, paddlers ease their canoes through the river's riffles below Banff and children cycle along Canmore's riverside trails. All know the murmur and chatter of the river. Some may hear in it tales of hidden places high in the Rockies where the headwaters rise, or rumours of the great global forces that sustain the river and its landscapes.

On the Continental Divide north of Lake Louise, meltwater from Bow Glacier flows into Bow Lake and then into the newborn Bow River. Most people would say this is

Kevin Van Tighem

Heart of a Mountain Ecosystem

The Bow Corridor cradles crucial resources for wildlife—and people.



Gap Lake, west of Lac des Arcs in the Bow Corridor.

R.N. SMITH

the source of the Bow River. It is closer to the truth, however, to say the Bow begins in the Pacific Ocean.

The Pacific Ocean is like a vast humidifier that sprawls between Asia and North America. Winds, kept in motion by the Earth's rotation, sweep east and north across the blue Pacific, drawing immense masses of moisture-laden air up and across the continent where we live.

Pulled by air ahead and pushed by air behind, the great Pacific weather systems drag bucketing sheets of rain across British Columbia's Coast Mountains. Rolling eastward, the air masses rise over the Selkirk and Purcell mountains where they shed more moisture to grow giant cedars, devil's-club and grizzly bears.

Farther inland yet, Cranbrook, Invermere and Golden bask in a rain-shadow as the air masses flow on, up to the widest, highest mountain mass of all: the Canadian Rockies.

The Bow River is born of the last of that Pacific Ocean moisture falling as rain and snow along the crest and eastern slopes of Alberta's Rocky Mountains.

Bow Glacier receives up to 10 metres of snow each year, feeding the meltwaters of the Bow River. Other tributaries swell the Bow with their share of the Pacific Ocean's transported wealth. Pipestone River, Healy Creek, Spray River, Ghost and Kananaskis rivers, and countless smaller streams, all drain from headwater valleys tucked among the cliffs and talus slopes of the high Rocky Mountains.



CLEVE WERSHLER

The white form of the Yellow Lady's Slipper grows in only three places in the world: Bow Valley Provincial Park at the east end of the Bow Corridor, and in Ontario and France. No one knows for sure whether the French and Ontario forms are the same as Alberta's. Ours may be unique.

Ice

Only a few thousand years ago, snow fell more heavily on the high country and melted more slowly. For millenia, immense glaciers filled the valleys of the Bow and its tributaries. The glaciers flowed slowly eastward. They steepened valley walls, flattened valley bottoms and scraped out complex landscape patterns. About 12,000 years ago, the glaciers melted back to the cold, sheltered refuges where they survive today in Banff National Park.

When the ice retreated, the Bow Corridor began to evolve into today's rich ecological mosaic. Plants and animals that had survived the ice west of the Rockies began to spread east through Kicking Horse, Vermillion and Kananaskis passes. Northern vegetation that had spread south along the ice fringe lingered, while prairie vegetation crept in from its refuges south of the glaciers.

Along the Bow Corridor, a unique ecological complex took shape. Plants and animals that had evolved separately, in very different regions, isolated by ice, encountered one another in a raw new landscape of glacial terraces, limestone mountains, valley-bottom springs and a mild climate uncommon in the Rocky Mountains.

Climate

Mountain landscapes and ecological diversity go together. The rugged terrain results in complex interplays among slope aspect, sunshine, drainage and wind.

Toe-Hold

The long-toed salamander thrives in the Rockies, a rarity among amphibians. Even so, only the gentle climate of the montane ecoregion suits this dark little salamander, and even there it clings to a few specialized habitats.

Each May, salamanders venture out of their homes in the soil and rotting logs of aspen forests, willow thickets and other montane habitats, following their instincts to the ponds of their birth. There they mate, then lay their eggs in shallow water where the spring sun will warm them until tiny black larvae, like little tadpoles, hatch out.

Long-toed salamanders, once common in the corridor, have fallen victim to the 20th century. National park wardens and provincial fisheries officers unwittingly helped to exterminate some populations by stocking small lakes and ponds with trout. Long-toed salamander larvae are easy prey for this predator. Geoff Holroyd of the Canadian Wildlife Service points out that Pilot Pond, in Banff National Park, was once known as Lizard Lake because of its salamander population. Trout stocking eliminated them.

In other parts of the Bow Corridor, roads have blocked salamander migration routes, and wetland filling and gravel quarrying have eliminated breeding ponds.

Invisible and unknown to most of the people whose activities have

changed their ecosystems, long-toed salamanders now survive in only a few ponds and wetlands along the Bow Corridor. These few vulnerable populations still make their annual journeys each May, unaware of the land-use changes that threaten their future.

Kevin Van Tighem



CLIFF WALLIS

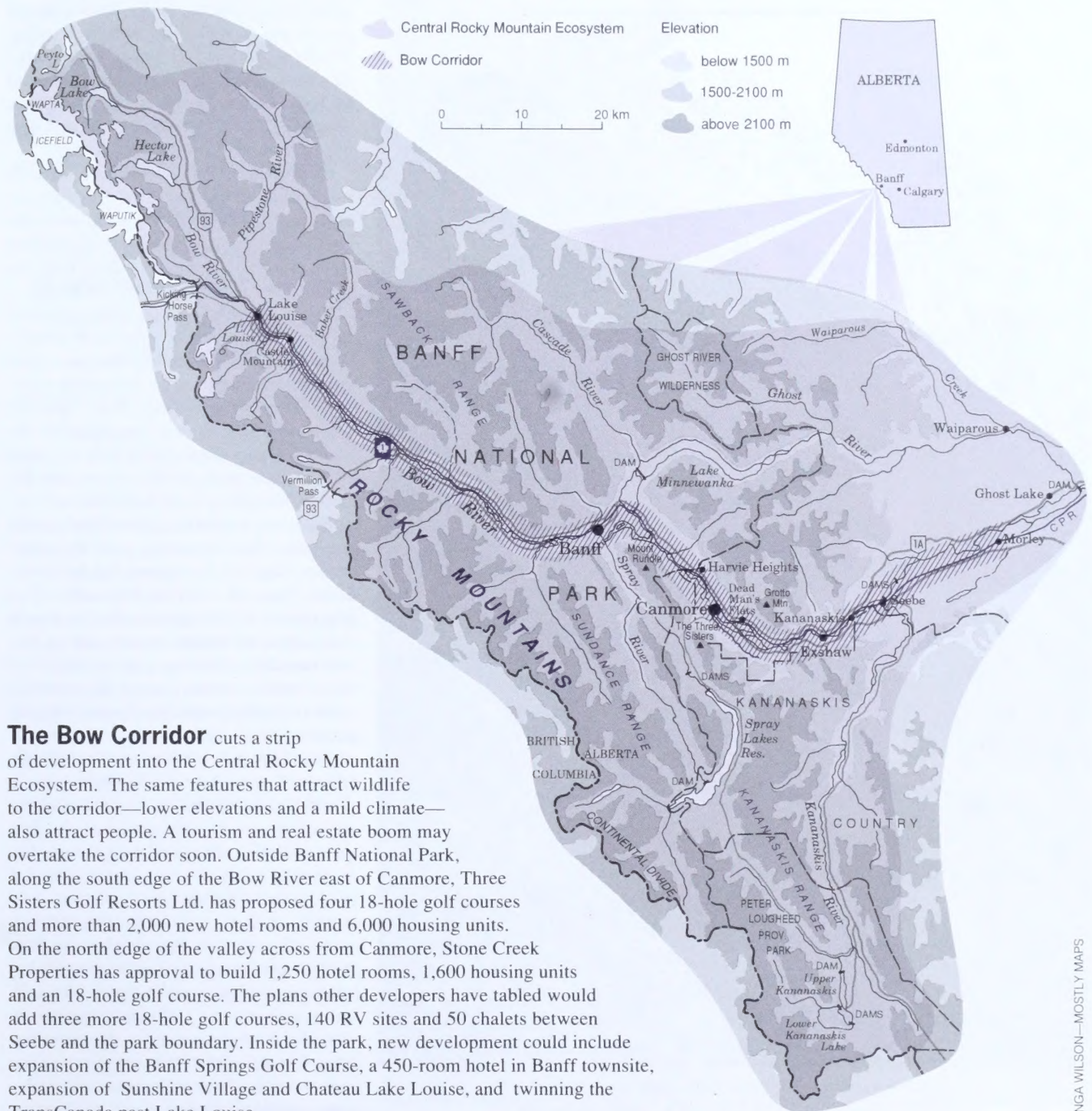
Long-toed salamander

South-facing slopes receive more sun and wind than those that face north and, as a result, support plants that can survive dry conditions. Snowmelt and rainwater run off steep slopes rapidly while filling hollows and valley bottoms with wetlands. Each change in slope aspect or steepness, creates a different environment, which in turn supports

a different set of plants and animals.

The Bow Corridor adds a unique and important element to this diversity. Thanks to its relatively low elevation and the remains of those great Pacific weather systems, the corridor is warm and dry compared to the heavily forested landscapes more typical of the Canadian Rockies.

Along the Bow Corridor, grassland, aspen forest and open Douglas fir forests cover the southern exposures. Pine and spruce forests grow on shady slopes. Down along the river, where spring floods rearrange the floodplain year after year, thickets of water-loving willow and red osier dogwood alternate with rich old forests of spruce and balsam poplar



The Bow Corridor cuts a strip of development into the Central Rocky Mountain Ecosystem. The same features that attract wildlife to the corridor—lower elevations and a mild climate—also attract people. A tourism and real estate boom may overtake the corridor soon. Outside Banff National Park, along the south edge of the Bow River east of Canmore, Three Sisters Golf Resorts Ltd. has proposed four 18-hole golf courses and more than 2,000 new hotel rooms and 6,000 housing units. On the north edge of the valley across from Canmore, Stone Creek Properties has approval to build 1,250 hotel rooms, 1,600 housing units and an 18-hole golf course. The plans other developers have tabled would add three more 18-hole golf courses, 140 RV sites and 50 chalets between Seebe and the park boundary. Inside the park, new development could include expansion of the Banff Springs Golf Course, a 450-room hotel in Banff townsite, expansion of Sunshine Village and Chateau Lake Louise, and twinning the TransCanada past Lake Louise.

To restore and protect the ecological wealth of the Bow Corridor, more of us must understand how the larger ecosystem works. The only hope for the corridor rests on our ability to weave, with sensitivity and restraint, human uses into the living tapestry of a rich, still-evolving ecosystem.



KEVIN VAN TIGHEM

In a scene replayed on many roads through the Rockies, a bull elk picks his way across a highway in Jasper National Park.

or newly exposed gravel flats covered with rushes, dryas and mountain fireweed.

The mild climate of the Bow Corridor sustains a unique landscape of mixed grassland, aspen thickets and forests of Douglas fir and lodgepole pine called the montane ecoregion. The montane occurs in only a few other places—Jasper's Athabasca Valley, part of the upper North Saskatchewan Valley and a narrow band of southern foothills.

In the winter, we know Pacific weather fronts as chinooks, the warm winds that sweep down from the Rocky Mountains and turn the prairie winter into short-lived spring. The Bow Corridor is a funnel for chinooks. The winds, drained of moisture and warmed by their sudden descent to low elevations, repeatedly sweep snow from south and west exposures in the corridor each winter.

Banff National Park's famous elk herds do not winter along the Bow Corridor by chance or coincidence. They are there because in all the cold, inhospitable northern Rockies, this is one place where they can generally be sure of surviving the winter.

Up to 1,300 elk, many of which summered in the green wealth of headwater valleys, spend each winter in the montane where they can avoid the deep snows of the high country winter. Bighorn sheep, mule deer and other large animals also congregate on the montane winter ranges where they can count on abundant grass, shallow snow and the occasional spell of mild weather.

The sunny south-facing benchlands across the valley from Canmore, and the wind-blown ridges of Grotto and Pigeon mountains, are all vital to the survival of populations of elk, bighorn sheep and mule deer, and to the wolves, coyotes and cougars that hunt them. Take away those winter refuges, and a vast expanse of the southern Alberta Rockies would become ecologically impoverished.

Geoff Holroyd with the Canadian Wildlife Service has studied wildlife populations in Banff National Park. His work shows that the montane ecoregion, partly because of its great habitat diversity and mild climate, has by far the greatest density and diversity of wildlife in the Rockies.

Alluvial fans—fan-shaped landforms where tributary streams enter the main Bow Valley—are among the most important habitats because of their poplar forests, rich soils and available water. Unfortunately, they are also the most desirable for development. Most Banff National Park campgrounds and tourist lodges, not to mention the entire towns of Banff, Exshaw, most of Canmore

and the Deadman's Flats service area, occupy montane alluvial fans.

People

People savour a chance sighting of a wolf loping along the Bow River floodplain, or a herd of elk grazing on the Canmore benchlands. They glimpse the animals, but not the complex links that connect landscape, climate and wildlife. They don't see where the links have broken.

"One of the penalties of an ecological education," American conservationist Aldo Leopold wrote half a century ago, "is that one lives alone in a world of wounds."

Generations of Albertans, whose optimism and ambition often exceeded their ecological knowledge, have inflicted wounds on the

sible land-use planning can heal the wounds of past mistakes if it refocuses human activity onto those parts of the Bow Corridor that are most resilient and least critical to the well-being of the greater ecosystem.

Above all, we need to respect the limits of the ecosystem. For human activity, those limits depend on how well we learn to anticipate the ecological consequences of our actions and how willingly we then adjust our

ambitions in light of that understanding.

The only hope for the Bow Corridor rests on our ability to weave, with sensitivity and restraint, human uses into the living tapestry of a rich, still-evolving ecosystem.

Award-winning writer Kevin Van Tighem is ecosystem management specialist for Waterton National Park and past-president of the Alberta Wilderness Association.

Banff National Park's famous elk herds do not winter along the Bow Corridor by chance or coincidence.

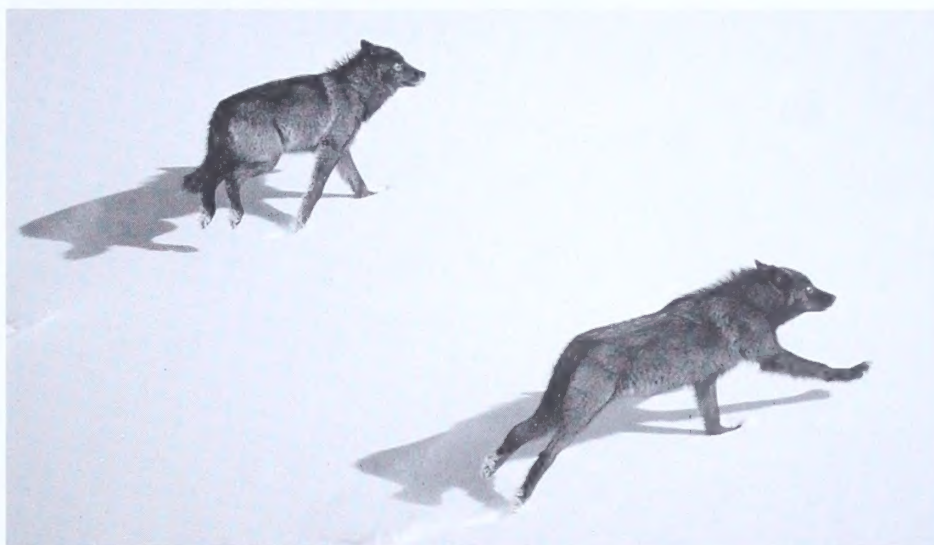
Bow Corridor. It is a different place than when the Peigan, Kootenai and Stoney people had it to themselves. Human populations have mushroomed. Roads, bulldozers, exotic weeds and mortgages have interrupted the corridor's long gradual evolution since the retreat of the glaciers.

The Bow Corridor's scenic beauty camouflages the degree to which incremental change has compromised its ecosystem.

Wolves are rare, otters and fishers extinct, and even elk appear unable to rebuild their populations outside Banff National Park. Grizzly bears seldom roam the Bow River's floodplain and, Paul Paquet warns, could disappear within the next decade. Long-toed salamanders survive in only a few ponds.

Ecologically significant areas in the corridor now appear on the blueprints and plans of resort developers and mining companies. For example, Stone Creek Properties will build an 18-hole golf course and 1,250 hotel rooms on part of the Canmore benchlands. One of the Lafarge Canada leases impinges on the sensitive area around Grotto Mountain.

To restore and protect the still considerable ecological wealth of the Bow Corridor, more of us must understand how the ecosystem works. Ecologically based and respon-



Wolves, Banff National Park.

PAUL PAQUET

On the Run

The TransCanada highway kills more wolves in Banff National Park than anything else, according to professional biologist Paul Paquet. As roads and development carve up montane valley bottoms, wolves and other large carnivores—never common at the best of times—face ever-greater risk of death or disturbance.

A rabies scare in the 1950s led the government to poison virtually all wolves south of Jasper National Park. No one spotted a wolf in Banff National Park for over 20 years. In the late 1970s, single wolves and small packs began to reappear. They had spread south from the northern forests—then relatively undisturbed—through the protected mountain habitat of Jasper.

Paquet has identified key movement

corridors for wolves, cougars and bears. So far, the corridors have helped these scarce animals maintain essential links between populations to the north and south and avoid becoming separated into small, isolated populations.

One corridor extends from the Bow Valley through the Spray Lakes into southern B.C. and Peter Lougheed Provincial Park. Another runs through the Wind Creek Valley and Skogan Pass into Kananaskis Country.

Today, wolves continue to recolonize their ancestral ranges. They turn up as far south as Idaho and Wyoming. But the Bow Corridor, sliced by the TransCanada and the railroad, and brimming with resort plans, poses a dangerous obstacle.

Kevin Van Tighem

R.W. Sandford

Blue Mountains Black Coal

The Bow Corridor has a history of regional rivalry.



DIANE MCIVOR

An east-bound CPR train rounds a bend in front of Wind Tower in the Wind Valley.

In the old days, Banff and Canmore warred at local hockey games. Fans came armed with willow switches and whacked players from the rival team when they skated close to the boards.

Even then, Banff was a tourist town, famed for the beauty of its mountains, dependent on the wealthy international visitors who came for the waters and the view. Canmore, in those days a mining town, scraped off the scenery to get at the riches that lay beneath.

Rivalries still simmer in the Bow Corridor. Even though Lake Louise, Banff, Exshaw and Canmore generate only enough students to fill a couple of medium-sized urban high schools, each community supports its own school district rather than risk letting the fate of its taxpayers slip into someone else's hands.

But that approach creates risks of its own. Each region in the valley takes care of its own interests at the expense of a larger view of the future of the corridor. Without a common vision, corridor communities risk losing the wilderness that attracts tourists. This may ultimately bring economic ruin.

Railway Birth

Banff and Canmore both owe their existence to the Canadian Pacific Railway, which pushed through the Bow Corridor in 1883 as it followed a path of least resistance west through the mountains.

The newly completed railway, without a doubt the most expensive public project ever seen in Canada, had to find creative ways to pay for itself. An astute CPR executive, William Cornelius Van Horne, thought he could fuel the engines of the railway's great westbound trains with international tourist money. Almost overnight, CPR promoters remade the image of the west—from remote, harsh wilderness to the romance of blue mountains, red Mounties and moonlit ice.

Van Horne lobbied the federal government to create a small reserve around a series of hot springs that railway workers had stumbled across above Siding 29, near the present site of Banff. Rocky Mountain National Park, later renamed Banff National Park, was the first natural landscape preserve of any consequence in this country.

The tourism savvy of the railway gave Canada all its first western national parks: Banff, Yoho and Glacier. As in many American parks, railway hotels became the heart of each of these reserves.

The CPR built a grand hotel in Banff in 1888, and in 1914, another on the shores of Lake Louise. In expanded form, the hotels are still the economic mainstay of these two corridor communities.

Canmore's roots, by contrast, did not take in the fertile soil of international tourism. They went down much deeper into the earth, into mountains of limestone and seams of black and ancient coal.

In the summer of 1883, the CPR built its first division point west of Calgary at Canmore. The rails, splitting off in different directions and connecting to new markets, brought business to the town. Canmore Coal Company opened a mine in 1887, which operated for 92 years. In 1905, Continental Lime Company began to quarry the "Mountain of Limestone" near Canmore, the first of the rock industries that mine the valley to this day.

Canmore survived, while other coal towns such as nearby Bankhead and Anthracite died with their mines.

The Growth of Tourism

The Car and Mass Tourism

If the passenger train brought the first era of tourism to the Canadian west, the automobile brought the second. The North American car economy pushed roads across the continent. By 1962, the TransCanada Highway cut through the corridor, paralleling the railroad and its easy route through the Rockies.

Cars brought a lot of change, especially to Banff. Rail tourists had been an exclusive set, wealthy enough to pay for the ticket west, for lengthy hotel stays of weeks or even months, and for outfitters to guide them through the backcountry.

The car democratized long-distance travel. It brought trips to the remote Rocky Mountain parks within economic reach of the average North American. By the late 1960s,



Canmore Mine in the twenties.

local and regional visitation overwhelmed the international tourist trade that had made the Rockies famous.

The new tourists demanded different services than their genteel predecessors. They made short forays into the park, staying only for weekends or passing through en route to other destinations. They wanted good roads, affordable hotels, fast food and attractions with lots of parking, such as the Sulphur Mountain gondola.

Local businesses boomed. With endless tourism growth on the horizon, an unspoken local attitude emerged that tourists would always come, no matter how you treated them. Gradually, a gold rush mentality replaced the sleepy down-home hospitality that had once characterized Banff and the park.

part visitors from their cash. For others, it had become a living example of the gun tourism held to the head of landscape preservation. Still others saw Banff as an example of how modern urban living cut people off from their roots in nature.

Big Jets, Small Planet

In 1981, recession hammered North America. Many corridor tourism businesses changed hands or failed completely. The stunned survivors learned a lot about how to coax the goose that lays the golden egg. In two short years, the recession revolutionized tourism in Canada.

It forced businesses in the corridor finally to see tourism as an industry in its own right. It was a realization long overdue, so obvi-

The decline of natural environments worldwide drives the growth of modern tourism — a new twist on the old CPR slogan: "See this world before the next."

More visitors brought seasonal crowding and fierce competition for limited hotel space and other services. Some local people came to view tourists as intruders who crowded the town and the park, making it difficult for the locals to enjoy the environment where they lived.

By 1980, the character of Banff and the park had fundamentally changed. For many, Banff was simply a rude and arrogant little town that capitalized on grand scenery to

ous now that it seems impossible Canadians failed to see it decades before. Canada was way behind its competitors in understanding and delivering the standard of service international travellers demand.

Businesses woke up to the fact that tourism had again changed. The wide-bodied jet—the third technological innovation to remake tourism after the train and the car—brought a new kind of visitor to the corridor. People who travel to Banff these

days have probably been to London, Rome and New York. They aren't interested in local interpretations of good service. They want the international standard.

Tourism has also changed because of a growing global awareness that the world is losing its wild places. It is a frightening irony that the decline of natural environments worldwide drives the growth of modern tourism. It gives a new twist to the old CPR promotional slogan: "See this world before the next."

Banff has still failed to come to grips with the value of its own wilderness. Business planning does not recognize fundamental tenets of sustainable tourism. Individual businesses still argue for special considerations in their development proposals without thought for the incremental impact on the environment that sustains them.

Rocks and Real Estate

When the coal ran out in 1979, the Canmore region still had its rock industry. Limestone and gravel became the big employers, with jobs for 350 people from Canmore, Exshaw and as far away as Cochrane.

The rock industry pumps wages worth \$16 million into the local economy every year. Though the visual impact of the Lafarge plant appals some environmentalists and a few locals, the industry is not going away. In 1991, an industry study said existing limestone leases in the corridor would last at least another 50 years.

The rock industry will continue as the economic staple of Canmore and Exshaw. But real estate development, in the form of recreational properties, now fuels the engine of

The present property and tourism boom threatens to unravel the corridor's biggest tourism asset: its ecological integrity.

economic growth.

Canmore, with its resource extraction industries, has never had the pristine scenery of Banff. To diversify its economy, Canmore has capitalized on something Banff cannot offer: real estate.

Anxious initially to stimulate only the most appropriate forms of tourism, local politicians argued for a decade that Canmore should never become another Banff. Instead, it is becoming another Calgary. In the last decade alone, four major subdivisions full of weekend retreats and retirement homes have sprouted next to the town core. They look like the suburbs of any North American city.

Banff contributes its share to urban pressures in Canmore. Over 1,000 people who work in Banff now live in Canmore.

The thought of a city on the edge of Banff National Park concerns ecologists because animals in the park depend on habitats beyond its gates. Resorts and housing that erode those habitats threaten wildlife populations in the park and the Bow Valley as a whole.

Urban growth also erodes Canmore's small-town heritage. The growing market for

weekend homes, and the regional need for housing, have driven up property values and brought higher taxes. Now many of the people who gave the town its character and charm can no longer afford to live there.

Challenges Ahead

The history of the Bow Corridor has given each region of the valley a different economic base. The corridor still splits along these lines.

For tourism to play a role in the long-run prosperity of the valley, Bow Corridor communities must integrate their development strategies. The present property and tourism boom threatens to unravel the corridor's biggest tourism asset: its ecological integrity.

Urban sprawl covers more of the landscape each year, as Banff swells to accommodate its tourist traffic and Canmore swells with weekend condos. In the straightforward economics of industrial tourism, there is little room for the needs of wild animals. To many tourism operators, the corridor would be safer and easier to run without them.

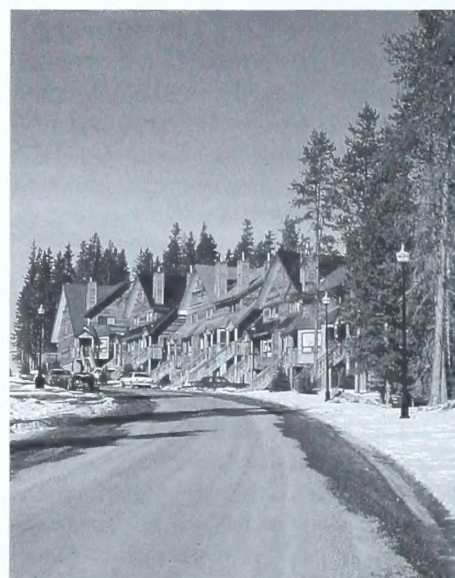
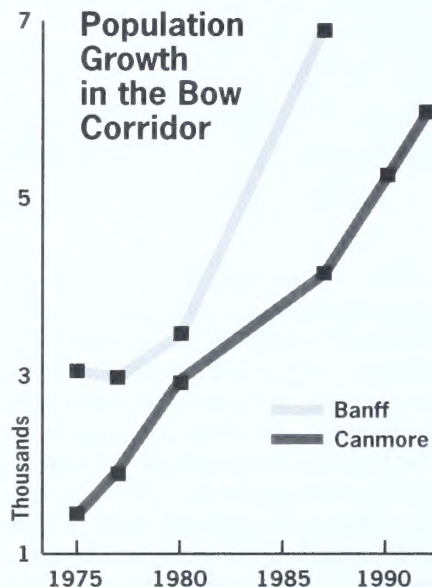
Today's sophisticated tourists, however, want more than picture-postcard scenery. They want that rarity in our industrialized world, a functioning ecosystem.

Failure to protect what attracts visitors from all over the world does not make economic, social or environmental sense. The valley badly needs to work together toward a common vision of its future.

Bob Sandford is a tourism consultant, author and film-maker who lives in Canmore.



DIANE MCIVOR



R.N. SMITH

On Canmore's benchlands, trails become subdivisions as population pressure builds in the Bow Corridor.

Big Picture Puzzle

Fragmented Planning in the Bow Corridor



The Bow Valley, looking east across Canmore Flats.

From the air, it's all one valley. No dotted lines divide the Bow Corridor into national park, municipal district, Crown land and town land.

The administrative map tells a different story. Several agencies each administer a piece of the corridor. No one has control of the big picture.

This is a problem. Boundaries confine the agencies, but not the impacts of the projects they approve. And each project adds to the total disruption of the ecosystem, which no agency tallies.

The Natural Resources Conservation Board (NRCB) took note of the problem during the Three Sisters Golf Resorts hearing. In its November 1992 decision report,

"We are all struggling with what the ecological interrelationships are and how all the various government and private sector agencies can function in a way that reflects the integrated nature of the environment we work in."

the board said "there is a question as to whether (existing planning mechanisms) are sufficiently co-ordinated for environmentally sensitive areas such as the Bow Corridor, where there are also tremendous pressures for tourism and other developments."

Charlie Zinkan, superintendent of Banff National Park, also takes note of the problem. "As a protected core, Banff will depend on land use adjacent to the park. We are all struggling with what the ecological interrelationships are and how all the various government and private sector agencies can function in a way that reflects the integrated nature of the environment we work in."

Canmore mayor Bertram Dyck says co-operation across municipal boundaries will

generate better regional integration of planning. "I think central to the issue are the two municipal bodies that control land development, the Town of Canmore and the Municipal District of Bighorn," he says. "They have to agree that it's a worthwhile goal and then they could set up Bow-Corridor-wide planning structures."

The municipal district (MD)—which administers Exshaw, Deadman's Flats, Harvey Heights and Lac des Arcs—and the Town of Canmore together control almost all of the resort development now proposed outside

the park boundary. They will take the brunt of new pressures for weekend retreats, housing and golf courses that Banff's protected status keeps at bay.

The town and the MD are uneasy partners in planning.

Since the hearing, in a small way, they have started to work together. But more remains to be done.

The Wildlife Corridor Committee

When the snow falls, elk and sheep drift down from the mountains and onto the wind-swept montane along the Bow Valley. They use the routes they have always used, when they can.

These wildlife corridors snake through the entire Bow Valley, connecting pockets of crucial habitat and pockets of animals within the ecosystem. They are supply lines, communications links and routes to survival for such species as elk, sheep, moose, wolves, bears and cougars.

Canmore sees them as the backbone of its growing tourist economy.

"People come to the valley to live or visit to appreciate nature. We don't want to damage the things that bring people here," says Bert Dyck.

"We want to make sure we still have wildlife corridors, make sure we keep the beauty of the valley, including its ecological integrity.

"We don't want to push the environment



Everyone who has driven the Bow on the big bend in the TransCanada and the corridor have four other plants and the park gates. The industry buoys up 300 people and annual spending of \$30 impact of the rock industry rankles the valley. The distribution of tax dollars of Bighorn collects all the indu



Bighorn lamb

NRCB Proving Grounds

Environmentalists and the business community alike carefully watch the growing record of the Natural Resources Conservation Board (NRCB) for signs that it is a fair arbiter.

The provincial government created the NRCB in 1990 in the wake of the Oldman Dam controversy and public concern over the pace and scale of pulp mill development in northern Alberta.

Forestry, tourism, mineral extraction and water management projects anywhere in the province trigger NRCB review if they are large enough to affect the "public interest" in Alberta. The NRCB Act instructs the board to evaluate "the social and economic effects of the projects and the effects of the

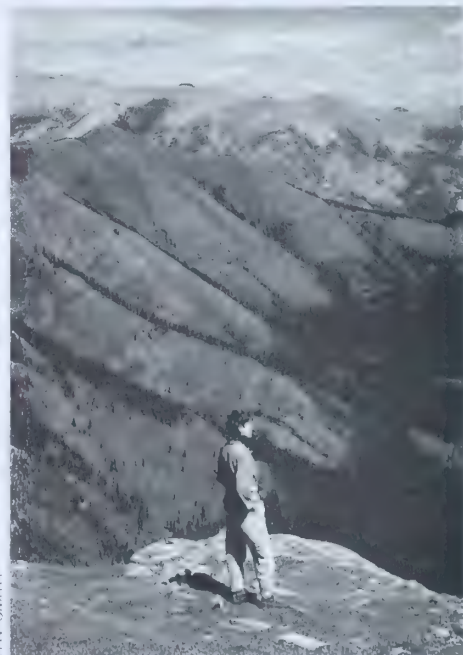
projects on the environment."

The Three Sisters Golf Resorts proposal resulted in the board's third and, up to then, most controversial hearing.

Before Three Sisters, it had approved an expansion of the Swan Hills Special Waste Treatment Centre's incinerator capacity and a golf course at Evan Thomas Creek by Kan-Alta Golf Management Ltd. It had also approved without hearing a recycle pulp mill near Redcliffe.

In all the decisions, the board found it in the public interest to approve the projects. In its decision on the Three Sisters resort, however, the board excluded development in the Wind Valley for environmental reasons.

Wendy Francis, studying for her masters degree in environmental law at the University of Calgary, wrote part of her thesis on the record of the NRCB to date. In her opinion, it's too early to say if the board is a success, but she says there are promising signs in the Wind Valley exclusion that the NRCB is more than a rubber stamp.



A hiker looks down on the Wind Valley from West Wind Pass.



corridor remembers the LaFarge plant and Lac des Arcs. The rock industries in other active quarries between Seebe and the corridor's economy with jobs for more than 100 people on local goods and services. The visual impact of the plant and quarrying causes friction: the Municipal District of Bow Valley South pays taxes—\$0.8 million in 1991.

into the background, we want to keep it in the foreground.”

In January 1993, the town spearheaded a multijurisdictional committee to protect wildlife corridors in the Bow Valley. It includes the MD and the other agencies with jurisdiction in the corridor: Banff National Park, Kananaskis Country and Alberta Environmental Protection.

The committee operates as a forum for negotiations to protect the wildlife corridors. It also acts as a clearing house for badly needed information on the complicated structure of the corridors. Animals move through some corridors seasonally, others daily. Different animals rely on different routes.

The committee will also lobby the provincial government for changes to the Planning Act to allow municipalities to protect wildlife corridors.

“It’s a start,” says Dyck. “But, the issue of wildlife corridors doesn’t address other kinds of disruption in the valley.” For example, he says, it doesn’t touch the problem of visual impacts.

Power Struggles

Lorraine Fraser, reeve of the MD of Bighorn, doesn’t see a need for more integration.

“I don’t think so. I think we’re over-done right now.

“All our plans are pretty well done. We’ve

She criticizes the board’s Kan-Alta decision, however, as “a big mistake.” Francis says the NRCB used very narrow criteria to determine intervenor funding and no interest groups qualified. “That really affected the quality of information they got.”

For its work to date, Francis gives the board “a five out of 10.”

The NRCB’s next decision will have a big impact on its rating. At the end of June, it held hearings on an application by Vacation Alberta Corp. for a resort development in Westcastle. Francis says it was “a good one, because again there are a lot of ecological impacts there, but the pressure for the economic benefits is even greater than it was in the case of Three Sisters.” She says the people of Pincher Creek worry about losing their economic base.

Westcastle also falls into the Crown of the Continent, the big ecosystem that surrounds Waterton National Park. It is a notorious environmental hot spot. Environmentalists

overflow with information about the area’s flora and fauna.

The NRCB headed into the Westcastle hearings with a new chairman, Ken Smith. Smith comes to the position after 11 years as assistant deputy minister of environmental protection services in Alberta’s department of environment.

Gerry DeSorcy resigned as chairman last February after guiding the NRCB through its first growing pains. Vice-chairman Tony Yarranton planned to resign after the Westcastle hearings. The two men were the driving force behind the NRCB.

Ken Smith will lead an untried team into increasingly difficult terrain. The NRCB will soon face its first northern pulp mill application, in the form of Grande Alberta Ltd. This will be harsh proving ground for Smith and his board.

Nancy Davison

Planning Act Too Narrow for Wildlife Corridors

The Town of Canmore’s general municipal plan shows where wildlife corridors cross town property.

“Canmore is growing to such an extent that if we don’t pay careful attention, we run the risk of blocking the wildlife corridors,” explains town mayor Bert Dyck.

But sketching the corridors on the plan does not really put them on the map. Canmore has few tools to set the corridors aside.

“The only tool we really have to preserve areas is under the Planning Act,” says Paul Bates, the town’s director of planning. “It’s called environmental reserve, but we can only invoke it for areas that are undevelopable because of poor drainage or stability. It doesn’t deal with wildlife movement or critical habitat.”

Municipalities can also set aside “municipal reserve” under the Planning Act—10 per cent of a developable area. But, says Bates, that covers land needed for schools and recreation. “So there isn’t a lot of municipal reserve to go around.”

Bates says Canmore council wanted to pass a bylaw to create a wildlife corridor district, but discovered the town would probably have to pay for private land that fell within it.

“I think the precedent for compensation was set by the NRCB in their ruling on Three Sisters,” says Bates. “It said that Wind Valley was too critical for wildlife and sent a signal to the province that Three Sisters should be compensated for it.”

The new multijurisdictional committee on wildlife corridors in the Bow Valley plans to lobby the province for more powers to protect the environment at the municipal level.

Nancy Davison

Trouble in Paradise

CPAWS Calls for Development Moratorium in Banff National Park

In the big picture puzzle, Banff National Park does not fit as a piece of pristine wilderness.

In fact, levels of development in the park alarm watchdog organizations such as the Canadian Parks and Wilderness Society (CPAWS) and ecologists such as Paul Paquet.

In May, CPAWS wrote a letter to then Environment Minister Jean Charest calling for a moratorium on development inside the park.

Last year, CPAWS and the Sierra Legal Defence Fund shut down logging in Wood Buffalo National Park after suing the federal government for contravention of the National Parks Act.

CPAWS national president Harvey Locke says the same law will force the federal government to conduct an assessment of the cumulative impacts of development on Banff National Park.

The National Parks Act says parks should remain in an unimpaired state for future generations. The federal government passed the act in the 1930s. Locke says amendments in 1988 made the act's protection mandate stronger.

"Since then, there's been a couple of hundred millions worth of building permits in Banff National Park," says Locke.

"It's time for a complete moratorium on development. We need a cumulative effects assessment on the park, particularly on the Bow Valley. Absolutely nothing should proceed until cumulative impacts have been assessed.

"What's going on in Banff right now is disgraceful. It's a park being destroyed from within."

Paul Paquet, a wildlife ecologist based in Canmore, agrees. He says starting in the 1950s, no other park in North America has lost species at the rate of Banff National Park. "We're a population sink, a mortality sink. Everything is dy-

ing here on the highway, the railway and through displacement.

"Outside the park, the ecosystem is more impaired than inside the park. But in the park, impairment is really accelerating quickly and I think it can be related directly to human activities and development.

"The only thing that grows continuously is cancer. That's the way I see development in the park. I mean it's going to kill its host pretty soon."

Paquet says the Bow Valley—"the largest and most productive valley in the system"—endures the worst stress. He says many species teeter on the brink of extinction from the valley, including wolves, grizzly and black bears, moose, cougars and lynx.

"With all the proposals inside and outside the park, it is unlikely we will be able to protect most of these species.

"It doesn't mean the animals can't recover if they are given the opportunity and the protection of the habitat they need to survive."

Recovery, he says, depends a lot on whether the government will curb development inside Banff National Park.

"My concern is that rather than seeing further degradation, I would like to see

some restoration."

Banff National Park superintendent Charlie Zinkan agrees that the Bow Valley is important to the park. "It does represent a very significant ecologically diverse habitat that is not richly represented elsewhere in the ecosystem." But he questions how well we understand the ecosystem.

"Wolves have established themselves in Banff National Park despite all that man has done to the park and the land adjacent to it. So I think we're not fully aware of the interrelationships of some of these things. I think some large carnivores are under stress in parts of the ecosystem that Banff represents. Clearly, within the park, we're concerned about the status of species such as wolves and black bears. There are stresses on the ecosystem. I acknowledge those. Internally, through environmental assessment and mitigation measures, we're attempting to resolve those issues."

Says Locke: "We'll do what we have to to keep the shovels from hitting the dirt. We hope we will not be compelled to sue the federal government to enforce its own laws."

Lynn Zwicky



Grizzly, Banff National Park.

PAUL PAQUET

just done our general municipal plan, Canmore's just done theirs. We have land-use planning. It's working quite well right now."

Canmore and the MD see things differently because of tensions around the distribution of tax dollars and people in the valley. Most of the people fall into Canmore's jurisdiction—Canmore supports 6,000 people compared to Exshaw's 600—but the tax-rich rock industry falls within the MD's boundaries.

Many people who work in the rock industry rely on the town, explains Dyck. The town supports them with services, but gets no direct taxes to help pay for the services.

Five years ago, however, it did. Before 1988, the MD was an improvement district that, by law, shared its tax revenue with Canmore on a per capita basis. When it became a municipal district, tax-sharing stopped. "Canmore lost a lot of dollars from that," notes Dyck.

Lorraine Fraser worries, with justification, that Canmore will try to recapture that revenue. Dyck does not rule out a pitch to the province to change the arrangements, which he sees as part of a larger issue about revenue-sharing among municipalities generally. "I would say to them 'please exercise



Bert Dyck

Valley Planning and Advisory Committee (BPAC), with senior-level representation from all the agencies in the corridor, including Canmore and the MD of Bighorn.

The NRCB wants the committee to co-ordinate agencies in the corridor, collect infor-

more than 50 pages. Instead, perhaps the corridor needs more decision-making powers at the regional level.

Bert Dyck says he would be "willing to delegate certain kinds of authority to a regional planning organization if its makeup reflected the population spread of the valley"—a condition that would be completely unacceptable to the MD.

But Dyck believes that the solution lies elsewhere.

"I think the issue is not about getting legal hammers. A lot can happen through leverage. If a co-ordinating body sets up goals based on good research and sound planning principles—sustainable development principles—you ignore them at your peril."

Charlie Zinkan agrees: "I don't think the province or the feds or some municipality will have to forego their specific authority. I don't think that's necessary. But I think there has to be a forum for those authorities to resolve issues. We need to find a way that people can sort these things out, understand the implications and then go back to their jurisdictions and agree to implement what is in the best interests of the group as a whole."

Nancy Sheppard Davison is managing editor of EnviroLine. Lynn Zwicky edits Environment Views.

**"A lot can happen through leverage.
If a co-ordinating body sets up goals based
on good research and sound planning principles—
sustainable development principles—you
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the leadership to allow us to use local resources for maximum regional benefit."

In the power balance, Exshaw has everything to lose: money and clout. With more integration, says Dyck, "there might be some concern that main-street Canmore is dictating what happens in Exshaw because of the population distribution in the valley."

He adds: "Nobody likes to have their authority eroded and, as it stands, the MD has full municipal powers over much of the corridor."

What Needs to Be Done?

The NRCB's solution to fragmented planning in the corridor was to call on the provincial government to create the Bow

mation and provide advice.

The board made a point of leaving decision-making powers in the hands of local agencies. It did not want to create another layer of bureaucracy. For many projects in the corridor, the NRCB already adds a layer because the projects it approves must still satisfy the requirements of local planning authorities.

The BPAC recommendation, caught between a major restructuring of Alberta's department of environment and a provincial election, has not yet drawn a response.

Do people concerned with the corridor need more advice? The Bow Corridor is one of the most studied parts of the province. A 1992 bibliography of corridor research fills

Rethinking the Bottom Line

This fall, Hal Walker's company will begin construction in Canmore on a project that will eventually include 1,250 hotel rooms, 800 homes and weekend homes, 800 staff rooms, and an 18-hole golf course.

The Stone Creek Properties project cleared a crucial hurdle in 1990 when the Town of Canmore approved the plan. With the approval in hand, Stone Creek continued to examine the question of wildlife corridors through the property.

"To me, the whole project is centred around the environment," says Walker. "The whole reason you go to Canmore is the environment." Because of this conviction that he is selling more than com-

fortable rooms and golf, Walker hired McCallum, Paquet and Associates to map corridors through Stone Creek's site. The consultants concluded that an important corridor ran straight into proposed housing.

At that point, Stone Creek could have buried the finding and started building.

But Walker decided that his own conditions for approving the plan were more stringent than the planning authority's. Stone Creek shelved the town's approval and bank-rolled redesign, even though this necessitated going back through the approval process all over again. Now the project blueprints show a golf course where the corridor runs through the site.

Walker makes no claim that his development now amounts to wilderness preservation, but he does believe it fits into its surroundings. "For some reason peo-

ple like to say there's an incompatibility between golf development and wildlife. I don't feel that's the case, and I think a development of this nature can be done sensitively and preserve a means for interaction with wildlife as well."

Despite the initial expense of redesign, Walker is glad they made the effort. "I really believe it makes it a far better project," he says. By helping to protect the natural environment that will attract people to his development, Walker has been able in turn to predict a better return for his project.

Other developers may not have the same leeway on their properties, pockets as deep, or the same farsightedness.

Without the power under the Planning Act to withhold development approvals to protect wildlife corridors, Canmore will have to continue to rely on developers to see their interests where Walker sees his: in a healthy valley.

Glenn Rollans is an Edmonton writer and editor.

Keeping the Homes Off the Range

A Lesson from Oregon

Canmore mayor Bert Dyck worries that urban sprawl will cut off wildlife corridors and choke the town's growing tourist trade.

In Oregon, urban growth has well-defined limits that protect the rural backbone of the state's economy.

Since 1973, statewide land-use regulations have steered development away from prime farms and forests. Around Portland, the 15-year-old Metropolitan Housing Rule encourages high-density development on the remaining land.

The regulations use a system of triage to lock up prime agricultural land. People who own prime land, for example,



Rundview Estates, Canmore.

cannot subdivide it. Fewer restrictions apply to second-best land and the fewest to marginal land.

In a controversial move last August, the state legislature tightened up the land-use regulations. It made the list of permissible activities on the best farmland even shorter than before, but at the same time relaxed development restrictions on non-prime land.

Mitch Rose, communications manager for Oregon's Department of Land Conservation and Development, describes the regulations as a policy to direct, not restrict, growth.

"We've never said to cities 'you can't grow.' We have said that proposed urban boundaries violate our policy of not covering farmland."

Urban boundaries can also violate density guidelines. The Land Conservation and Development Commission (LCDC), which oversees application of the regulations and the housing rule, has sometimes sent Portland back to the drawing board to beef up levels of development within its existing boundaries.

Bill Blosser, chairman of the LCDC, says the housing rule simply removed zoning that required low-density development. This zoning, he says, operated on the presumption that higher-density housing was undesirable in neighbourhoods.

But Blosser says developers have found higher-density housing cheaper to build because service costs are lower. And people want to buy the houses too, because they are more affordable.

"No one has produced one ounce of truth that the restrictions slow development," says Blosser. "We have found that it actually improves property values in areas that are developing." Homeowners with a view know that urban sprawl will not destroy it.

Lynn Zwicky

Connie Bryson

Vision Quest

An *Environment Views* Round Table on the Bow Corridor



Members of the Bow Valley Naturalists look south across the Bow Valley to Canmore.

If interest groups in the Bow Corridor eventually sit down to hammer out a coordinated plan for the valley's future, tensions will rise to the surface.

Some of the forces shaping the valley pull against one another: the ambitions of the rock industry versus those of the tourist industry, small-town values versus large-scale development, ecotourism versus golf courses.

"There are so many areas of planning, so many land-uses in the valley," comments

Canmore's mayor Bert Dyck. "They don't all sit tightly together. We need to find a future for the Bow Valley that those interest groups can live with, see themselves in."

Slow-Paced Small Town

Martha McCallum is a wildlife consultant in Canmore and vice-president of BowCORD (the Bow Corridor Organization for Responsible Development).

"There's room for golf courses, but I worry about seven to eight golf courses," she

says. "I just think there's so many other things to do."

"I would like to see people come here to do the things that people who live here now enjoy—walking in the woods, mountainbiking, hiking up the peaks—as opposed to altering the environment so they can enjoy it."

McCallum's vision is not anti-development. But she says, "I'm eager to shape the character and pace of development in the Bow Corridor in ways that complement and



Martha McCallum

I would like to see people come here to do the things that people who live here now enjoy—walking in the woods, mountain-biking, hiking up the peaks—as opposed to altering the environment so they can enjoy it.”

sustain the natural resources and the small-town sense of community.”

McCallum acknowledges the dilemma that population pressures in the corridor pose for her vision.

“It’s a tough one: to have a rural ambience and at the same time allow for population growth without sprawling. Right now, all the places people do like to go for after-dinner walks are getting developed.”

She says BowCORD believes that the big resort hotels now proposed for the valley will make the pressures worse. “BowCORD would like to see small-scale developments like Jasper’s Maligne Lake Lodge in the 100- to 200-room range.” Since her company gets work from resort developers, McCallum is careful to say that this is BowCORD’s position.

McCallum sees a place for golf courses in the corridor, as long as they are developed one at a time.

“The biggest environmental concern I have about golf courses is the fact that they draw groundwater for watering and could therefore affect creek levels. I believe the solution is to monitor changes in creek levels for four or five years before deciding whether or not to approve another golf course.”

The fast pace of development proposed for the corridor concerns McCallum. If development happens quickly, change may overwhelm the valley before anyone can assess the cumulative impacts. McCallum says cumulative impacts need assessment to set thresholds for development in the valley.

“The answer to the question about how many people can live here should come as a result of setting those thresholds. People are worried that we are making big, irreversible mistakes with the various developments in the corridor. I believe there’s a lot we can do now to control development before we run into problems down the road.”

Strength in Numbers

Richard Melchin’s view of the Bow Corridor’s future fits with his position as president of Three Sisters Golf Resorts Inc., the company developing a large recreation and tourism project in Canmore. The Natural Resources Conservation Board (NRCB) reviewed the project last year.

“The question that was on the table during the NRCB hearing was: How do we go about the orderly process of our lives without having a devastating effect on the environment?” Melchin says. “As far as my vision of the future goes, that is still the key question.

“In my business, the environment is what I have to sell and offer to the public. I can’t afford to spoil it. Our vision is to strike a balance between where you and I get to go and the long-term preservation of wildlife.”

Melchin says increasing the density of the human population will achieve that balance. He also thinks that higher densities will allow for the development of more affordable housing, now in short supply in Canmore.

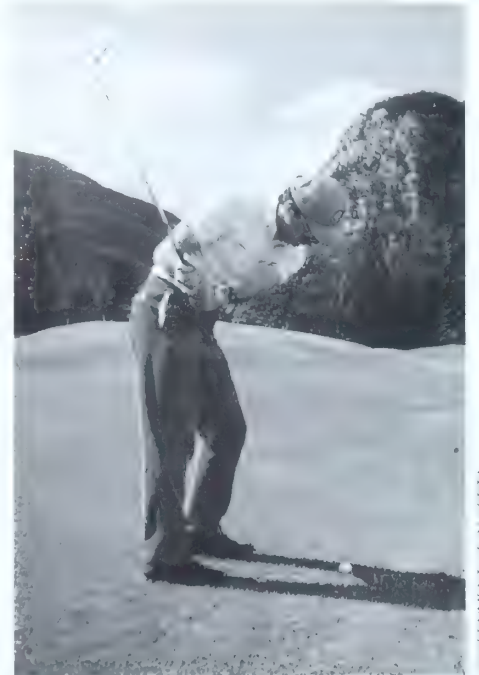
“Let’s be ludicrous and say we want a million people in the valley,” Melchin says. “I believe that as long as we use a limited land mass, we can control the environmental impact. Our contention is that growth should be confined to the land mass now known as the Town of Canmore.

“What we’ve seen is a dispersion of activity centres throughout the area. In Europe, resort areas are intensely developed, but in North America our concept has been to spread out and use the land. I’m saying this is the mistake we’re making and should correct.”

Room for Everyone

Since the turn of the century, the Bow Corridor has made money from mining and processing minerals such as limestone, sand and gravel, magnesite and building stone. A 1991 report estimated the rock industry’s value of production at \$146 million per year.

The industry is well-established and very optimistic about the future. In a conference



Developers want to expand Banff Springs Golf Course, one of nine new golf courses proposed for the Bow Corridor.

call, executives from four companies—Baymag, Burnco, Continental Lime and Lafarge Canada—did not fret that environmentalists or tourism developers might squeeze the industry out of the valley.

The rock industry mines land leased from the Crown. When it exhausts its existing leases, the industry will apply to the Crown for more land. Tourism advocates and environmentalists have expressed discomfort with extending the leases. They object to the visual impact of the rock industry on the scenic beauty of the valley.

Randy Cousins, area manager of the Canmore operations of Burnco Rock Products Ltd., responds: "Our reclamation efforts have been ongoing for a number of years and we continue to have public input in this process."

The industry points out that existing leases will generate about another 50 years of resource. And when the time comes to apply for additional land, they believe the Bow Corridor Local Integrated Resource Plan, which spells out provincial policy for Crown land, will ensure there's room for everyone.

"Arrangements have been made in the integrated resource plan for a number of stakeholders to co-exist," says Bill Schmidt, administration and credit manager for Lafarge Canada. "The rock industry has always felt there is room for all stakeholders. We just have to get together to talk and work out concerns in order to integrate initiatives for the future."

Cousins also has confidence in the IRP. He notes that government reviews the IRP every five years. "So the dialogue will always be there."

"Right now, the north side of the Bow is designated for mineral extraction, the south side for tourism. We see no conflict at this time. The industry has been there for years."

Rock-Hard Realities

When Lorraine Fraser talks about the Bow Corridor, her love of the area, and her mixed feelings about its future, come across clearly. As reeve of the Municipal District of Big Horn, Fraser is a fierce advocate of the rock industry and of development opportunities in the MD. But she also has fond memories of less "progressive" times.

Fraser was born and raised in Canmore. Her family ran the Canmore Hotel for 43 years. She remembers growing up in a town of 600 people, riding her bicycle everywhere and never locking the door. That way of life has largely disappeared from the corridor.

"We knew from being in the hotel that



Gravel pit, Burnco Rock Products Ltd.

things were going to change. More people were finding us every year," Fraser recalls.

"I just don't know where it's going to stop now. People have rights in this country, they can live wherever they want. If they have the money, we can't stop them from coming here. But I have a feeling this area is just going to be a rich man's paradise."

Fraser acknowledges the role tourism has played in raising the profile of the Bow Corridor. But she questions whether tourism can become the corridor's prime economic engine. The MD has a healthy tax base and low unemployment due mainly to the presence of the rock industry.

She does not see any tension between tourism and rock industry within the MD.

"None whatsoever. They work well together. People say a lot of things, I know. We've worked with the industry—it's been here since the turn of the century and one of the plants since before the turn of the century. We keep a good eye on them and we have a committee that meets every two or three months to look at the concerns of the industries and to give our concerns."

She does foresee, however, a conflict between areas of the corridor with industry and areas without.

"I see that the tourist industry is clean and nice, but the fact is that not many dollars go with it. I don't see how you get any gold out of tourism unless you have industry to help pay for some of the things tourists want like parks, trails and highways."

"I believe that Canmore really needs industry of some kind. It worries me that they will be looking to us (the MD) for some of

"I see that the tourist industry is clean and nice, but the fact is that not many dollars go with it. I don't see how you get any gold out of tourism unless you have industry to help pay for some of the things tourists want like parks, trails and highways."



Mike McIvor

It's my firm belief that in the corridor we've gone too far already. It may be that the ecological carrying capacity of this piece of the planet is one-tenth of what we have now in terms of population."

the tax dollars from industry. However our people are saying: 'We live right where the industry is and we look after our industry. We don't want to share those dollars.'"

Model Community

Canmore mayor Bert Dyck wants his town to follow a sustainable development path in which environmental sensitivity and economic growth complement each other.

"My vision is to have Canmore identified as a model sustainable community," he says.

"This would involve being the focus for environmental studies, celebrations and conventions. People here are already active in ecotourism and I would expect that to grow. Our wildlife corridors can be a major attractant. And we hope at some point in time that we will be a leader in waste management and sewage systems. All these areas can become economic generators in themselves." And all were part of the green municipal plan and business strategy Canmore approved a year ago.

Dyck is careful to point out that such a model does not deny development, as long as it proceeds in harmony with the ecosystem of the valley.

"After all, we live in the real world," he says. "I think there's a place for golf courses and resorts, but not wall-to-wall golf courses. Neither can we ignore the rock industry. But we will be talking to them—and are already—about site reclamation. And in 30, 40 or 50 years, I expect there will be a debate when they need new areas for mining."

Dyck says he realizes that moving toward sustainable development may be easier said than done. He says the first step is to slow development.

"I think we're turning a corner. The NRCB Three Sisters hearing, the municipal election last year, the development of an environmentally friendly general municipal plan and economic development strategy raised many issues that were discussed thoroughly.

"I believe people in Canmore—developers, citizens, business people—have become aware that we're going to have to do things differently to make sure we're building the future we're dreaming about."

Revolutionary Cry

Ask Mike McIvor for his vision of the Bow Corridor in 20 to 30 years, and you won't get one.

"In that timeframe, there is little reason for hope. We're headed in completely the wrong direction," he says. "I look to the farther fu-

ture—100 years or so—because that kind of projection is, for me, the only cause for hope."

McIvor says we need a revolution in thought and attitude to bring us in line with ecological principles.

"Acceptance of limits to growth is the start," says McIvor, who is a director of both the Alberta Wilderness Association and the Bow Valley Naturalists. "Then the work begins to figure out what those limits are and how we're going to achieve them. It's my firm belief that in the corridor we've gone too far already. It may be that the ecological carrying capacity of this piece of the planet is one-tenth of what we have now in terms of population."

McIvor's vision of the future also rests on a moral principle: the right of other species to survive. "It's not simply a matter of looking at the corridor and saying 'how many humans can this place support?'" The important question is: how many humans can this place support while at the same time allowing all other life to flourish?

"What I'd like to see is a corridor with an unmanipulated landscape. Instead there's the golf-course syndrome where we're converting landscapes that are infinitely more interesting and fascinating to monocultures of Kentucky bluegrass."

"As a society, we trivialize not only landscape, but our own possibilities, so that we are more and more willing to accept less and less." We will destroy, he says, the many-faceted character of our landscape and our lives.

"That's where we're heading now unless there's a drastic change in our ideas."

Enlightenment

Charlie Zinkan doesn't ask himself if Banff National Park will be intact 20 or 30 years from now. He says it has to be.

"If you think of it in a global sense, the world is nothing but a series of interrelated ecosystems." The health of local systems determines the health of the global system.

He adds that images of Mount Rundle, Lake Louise and Peyto Lake symbolize wilderness to Canadians and to the world. "Those symbols are part of our heritage that simply have to prevail into the future."

Zinkan agrees that wildlife in the Bow Valley show signs of stress. He sees the problem, and the controversy that surrounds it, as part of the park's evolution and history.

"The history of Banff is one that's related to transportation corridors. We've been

wrestling with the impacts of those transportation corridors, and how to resolve them in the context of a national park, for the last hundred years. I'm sure that will continue to be the focus of debate for the next hundred years.

"Anywhere transportation corridors cross the Canadian Rockies, it creates issues. The presence of Banff National Park or Jasper National Park or Kootenay or Yoho draws attention to that. The history of east-west transportation, and the development pressures that go with it, have always been a lightning rod of issues associated with Banff."

Zinkan says the park's strategy rests "on attempting to better understand the interrelationships of the ecosystem, better internal integration of planning and opportunities with adjacent agencies to sort out mutually shared problems."

Zinkan sees Banff as the protected core of an ecosystem that will contain a variety of land uses. "The various pressures and stresses are integrated in a way that doesn't compromise the integrity of the large system."

To achieve integration, Zinkan says local planning agencies and interest groups have to see a shared problem and hammer out a common vision to solve it.

"You work on a common vision and set of values. If as a group you agree that bears are important, then you can't say 'well, that value's not important to me' if you want to be part of the team that enacts the long-term vision."

"That's the strategic planning philosophy behind visioning and value statements," says Zinkan, a veteran of the struggle to protect the Crown of the Continent surrounding Waterton National Park using the same strategy. "We are all struggling with how to resolve conflicting interests and move to an enlightened interest that truly reflects the needs of the group as a whole."

Connie Bryson is a freelance writer who lives in Edmonton.

Images of Mount Rundle, Lake Louise and Peyto Lake symbolize wilderness to Canadians and to the world. "Those symbols are part of our heritage that simply have to prevail into the future."



Mount Rundle, from Canmore.

R.N. SMITH

AROUND THE PROVINCE

Daniel in the Lions' Den

Last April, in the heart of Alberta's oil patch, Greenpeace opened an office to campaign against the use of fossil fuels. The Calgary office is part of an international Greenpeace offensive against climate change.

"We're really in trouble because greenhouse gas levels in the atmosphere have been rising dramatically over the past few decades," says Kevin Jardiner, who runs the Greenpeace climate change campaign in Calgary. "The link between global warming and the increase of these gases from combustion of fossil fuels can't be ignored.

"Our message to industry is that change is inevitable. You have the people here with the knowledge and entrepreneurial energy to lead the way to a renewable energy future. Or, you can try to block change and end up going out of business like the horse and buggy."

Jardiner says climate change is a particularly scary prospect for Canada. The Intergovernmental Panel on Climate Change (IPCC), a group of 300 leading climate scientists, predicts temperatures in high latitude countries will rise quickly.

"When climate changes slowly, the vegetation can adapt, but with this rapid temperature increase, you'll see massive forest fires and the native species will die out."

To give the atmosphere a chance to stabilize, the IPCC has called for cuts in greenhouse gas emissions of 60 to 80 per cent from 1990 levels.

"The only way to cut down emissions by 60 to 80 per cent is to phase out fossil fuels and be more energy efficient," says Jardiner. "Industry's response

has been that it's economically impossible to get rid of these fuels."

But a Greenpeace-commissioned study concludes the opposite: renewable resources can fuel the future, even in the World Bank's projected global economy for the year 2100.

"We're not asking for an immediate shut-down of all coal stations and the scrapping of all cars today. Over the next 30 years most of the energy consumption and production systems will need to be replaced, so we're just saying, when you have to make that decision, put in renewable resources instead and at the same time work toward using energy much more efficiently."

To finance the changeover, Greenpeace wants governments to introduce energy taxes, provide financial incentives for renewable resource developers, remove subsidies for fossil fuels, and eliminate research and development funding for the fossil fuels and nuclear industries.

"We also want to change rate structures for utilities so you don't get penalized for being a more efficient consumer."

Jardiner says his phone has been ringing off the hook with public support despite his location in the oil patch—and, apparently, despite the internal controversy that has lately rocked Greenpeace.

In June, two former Greenpeace campaigners, who lost their jobs when Greenpeace cut programs in the face of shrinking finances, publicly criticized the organization for spending too much money on administration and fundraising.

They leaked a Greenpeace memo, dated September 16, 1992, that said only five per cent of gross donations in Canada went to Canadian

environment campaigns. Last June, Southam columnist Ken MacQueen quoted Greenpeace spokesperson Tamara Stark as saying that the share had since grown to nine per cent.

"In the past we've spent so much time on campaigns we've tended to forget about the need to keep in touch with our members and to provide financial information," says Jardiner. "Personally, I think the fundraising cost is too high and we're trying to encourage people to buy memberships through automatic bank withdrawals."

He says Greenpeace has arranged for an auditor to produce a report this year.

Gillian Crowley is a Calgary freelance writer.

Hot Talk

The uncertainties surrounding scientific inquiry into global warming mean policy makers will have to be flexible to adapt to emerging scientific discoveries says renowned Canadian climatologist Kenneth Hare.

Hare addressed more than 30 government, energy industry and environmental representatives in Calgary in August.

"It's wise to assume warming will continue, but governments should proceed cautiously in their responses," said Hare, who admits he falls on the "conservative side" of global warming predictions.

"I don't believe in rampant upfront financing of changeover from burning fossil fuels, but if governments do nothing, we fall victim to paralysis."

Canada's rise in average temperature since 1891 has been 1.1 degrees Celsius, similar to the global increase. Worldwide monitoring has verified a constant but variable increase in atmospheric greenhouse gases

since the 1850s. Concentrations of these gases rose steadily between 1973 and 1983, but since the early eighties the rate of increase has slowed.

Regional temperature differences muddy the water further: Alaska, western Canada and the U.S. plains have experienced warmer than average temperatures, but the Maritimes have been cooler than average.

"Our models don't give enough detail on regional effects, and yet politicians are influenced most by regional concerns," said Hare.

Some of the scientific uncertainty about climate change revolves around the variability of the sun's activity and its effect on warming, the difficulty of getting enough detailed data globally, and mathematical problems in the huge predictive models run on super computers. Hare believes changes in ocean currents could also influence climatic warming and cooling.

A global approach to emission reduction is essential, Hare concludes, because growing industrialization of countries such as China and India will dramatically increase greenhouse gas emissions.

James Tweedie, co-founder of the Bert Riggall Environmental Foundation, says industry could take away the wrong impression from Hare's talk.

"Dr. Hare's science is clear—the effects of global warming will be cumulative and massive. But I think an industry person would leave feeling he didn't have to do much. I'd like to see Canadian industry encouraged to lead the way in exploring alternative energy sources."

Gillian Crowley

These Films Are for the Birds

A Calgary film-maker has captured the splendour and mystery of several endangered bird species in a series of videos that make a pitch for habitat protection.

Three videos, ranging in length from 22 to 26 minutes, make up the series recently released by Sherry Kozak, producer and director of Missing Link Productions.

For the Birds stars Arrow and Apollo, Edmonton's longtime resident peregrine falcons, and the people who helped bring this fascinating bird back from the brink of extinction.

While it features the two Alberta birds, it talks about peregrines across Canada.

"Peregrines are still on the endangered list, but their numbers are increasing," Kozak says.

"That's what the film is about—it's a Canadian success story."

Singing in the Rainforest follows wood warblers from Lac La Biche and Cold Lake to their winter home in Costa Rica. These elusive birds, more often heard than seen, are extremely hard to film.

Kozak filmed them with the help of experienced birders and the result is some excellent footage of Blackburnian, Wilson's and Tennessee warblers.

In Birders of a Feather, "we look at ecotourism as a means of preserving habitat," Kozak says.

The video looks at shorebirds at Beaverhill Lake, warblers in Point Pelee National Park in Ontario and exotic birds in the Monteverde Cloud Forest Preserve in Costa Rica.

It includes rare footage of the quetzal, a brilliant emerald

and scarlet bird from the Monteverde Cloud Forest.

Released in May, the series attracted a lot of interest at premiere showings in Calgary and Edmonton.

"Once people see the birds in all their beautiful colours, they get hooked."

Kozak says she made the series to show the links between rain forest protection and the need in Canada to protect the boreal forest.

"Birds seemed a logical connection because they migrate and following them would give us a chance to explore habitat issues at both ends of their range."

Kozak took two years to make the videos and produced them in association with the Alberta Wilderness Association (AWA).

Kozak approached the AWA about the series because of the AWA's Wilderness 2000 program, which aims to protect a representative sample of Alberta's ecosystems. This fit well with the goal of the film: to promote action to preserve habitat.

The Environmental Partners Fund, AGT Ltd., the Recreation, Parks and Wildlife Foundation and Science Culture Canada funded the project.

Peter Gzowski of CBC Radio narrates the series. Robert Bateman illustrated the video covers. The videos are \$29.96 each, including GST, or \$49 for public viewing, plus a shipping charge of \$7.

They can be ordered from the Alberta Wilderness Association, 455 - 12th St. N.W., Calgary, T2N 1Y9. (Make cheques payable to: "For the Birds.")

A portion of the proceeds goes to the AWA for its habitat protection work.

Cathie Bartlett is an Edmonton writer and researcher.

Flotsam Comes Ashore

Plastic milk jugs, yogurt containers and ice cream pails sit on the shores of Lake Midnapore in Calgary.

They form nine docks made of recycled plastic planks, a new product from Calgary-based Plasticycle Inc.

"The planks will be longlasting, and they have saved a lot of room in the landfill site," notes company president Doran Jacobson.

Publicity about the plastic docks has brought an influx of calls from across North America, Jacobson says.



The company, established in 1990, grinds discarded plastic—more than a million kilograms of it to date.

It used to sell all the ground plastic to other businesses. In June 1992, it began to extrude its own end-product—plastic pipe—and has sold almost half a million metres of it.

The company uses industrial scrap plastic, including vinyl siding from contractors in Calgary and Lethbridge, and as far away as British Columbia. In the last eight to 12 months, Blue Box programs from Calgary, Airdrie, Crossfield and other southern Alberta communities have contributed a significant share of the company's monthly three-tonne demand for waste plastic.

Plasticycle, which employs about 20 people, expanded last February and now operates 10 extrusion machines. Jacobson

says more equipment means his company can turn a greater volume of waste plastic into a greater variety of new products.

"That's why we went public," he says, referring to the company's listing on the Alberta Stock Exchange—a bid to attract more investment.

"We could do so much more if we had the equipment," Jacobson says.

Cathie Bartlett

911 for Wildlife

A woman hiking near Canmore recently saw someone shoot a moose out of season. She had seen posters about Report a Poacher, so she called 1-800-642-3800.

"There are lots of eyes and ears out there, and they can do something about poaching," says program officer Darryl Kublik. He says illegal hunting can eradicate endangered species and decimate populations of species like moose that, while not endangered, are vulnerable to uncontrolled hunting.

Infractions can be reported two ways: by calling the toll-free number to the control centre, or by contacting Alberta Fish and Wildlife district offices.

The Report a Poacher program began in April 1990 and has taken more than 13,000 calls to date.

"We offer rewards ranging from \$100 to \$1,000 for information leading to charges in resource-related violations.

"Magnitude of the case, charges and species involved are factors that determine the size of the reward," Kublik says.

So far, \$134,275 has been paid in on rewards.

There were 938 charges in 1990-91; 1,127 in 1991-92 and continued on page 24

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1,066 in 1992-93.

One dollar from every recreational hunting licence sold in Alberta supports Report a Poacher. The program gets other funds from donations and part of the proceeds from the sale of Alberta Fish and Wildlife seizures.

Cathie Bartlett

Get Your Feet Wet

The Alberta Water Resources Commission (AWRC) has released a draft policy document for public review: *Beyond Prairie Potholes*. The draft policy discusses management of peatlands and wetlands in unsettled parts of the province.

The deadline for comments is November 30, 1993. The AWRC will hold public meetings on the draft policy this fall.

Another AWRC document, *Wetland Management*, received cabinet approval as an interim policy in May 1993. This policy aims to co-ordinate the work of government departments to stem the loss of wetlands in settled areas of Alberta. AWRC used public consultation to develop the policy.

The AWRC will send either document on request. Write to 910 Harley Court, 10045 - 111 Street, Edmonton, Alberta T5K 2M5 or phone 403-422-4232.

LETTERS

Greetings from Malaysia

The contents of the Spring 1993 issue, "Trapped by the Car," are very directly relevant for us in Kuala Lumpur, as car sales are increasing (and traffic jams as well).

Car pooling efforts are not very successful, partly because many car owners do not know that there is such a thing as a "social cost" of having more cars on the road. Most of them think only of "private cost."

Many car owners think that driving is the most convenient way to get to work and back. They do not realize that time, energy and money is wasted in the process of driving; not to mention the stress caused by

traffic jams, and the increased pollution.

The situation is further aggravated by a poor public transportation system.

However, efforts are being made to address the situation, both at government agency level and at NGO level.

I intend to reproduce some of the articles in this issue and pass them on to those who patronize our centre.

Congratulations to Maryhelen Vicars on your good work of editing this very useful quarterly for the past 11 years. I also congratulate Lynn Zwicky, the new editor, the other staff and the editorial board for this commitment to the environment.

Canute Januarius,
Catholic Communications
Centre, Kuala Lumpur,
Malaysia

Environmental Wisdom

I am from Edmonton and am working on my MSc, water resource engineering, at the University of Guelph. I hope to be returning to Alberta soon, and reading *Environment Views* keeps me informed about the environmental issues and activities in Alberta.

Educating people to be environmentally "wise" is so very important and I believe that your publication is doing a fine job of that. Thank you very much.

Julie Ulan,
University of Guelph

No Such Thing

I would like to continue receiving *Environment Views* although I can prove there is no such thing as sustainable development. If there were, I would be 18 feet tall and weigh 525 pounds by now. Also, of course, I would be immortal, which seems to be the ultimate quest behind sustainable development.

Warren Graves,
Raymond, Alberta

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